

REMARKS

Applicants have amended the claims in order to reduce the initial filing fee by deleting the multiple dependent claims from the application. Applicants retain the right to reintroduce any subject matter canceled by the present Amendment at any time during the prosecution of this application or any further application claiming benefit of this application.

Applicants have amended the application to substitute the originally filed pages 26-30 with the amended pages 26-30 attached to the International Preliminary Examiner Report (Annexes) and included in the application as filed herewith. Also, an Abstract of the Disclosure has been added to the application.

Applicants are submitting herewith a copy of the Search Report which issued on International Application No. PCT/GB00/00513, of which the present application is the U.S. national phase. All of the publications cited in the International Search Report are listed on the attached Form PTO-1449. It is Applicants' understanding that, under the procedures of the PCT, copies of the cited publications will have been supplied to the U.S. Patent Office by the International Bureau. However, the Examiner is invited to contact the undersigned attorney if additional copies are necessary or would facilitate examination of the present application.

Otherwise, the Examiner is respectfully requested to return an initialed and dated copy of the attached Form PTO-1449 to confirm that all publications listed thereon have been considered and made officially of record in the file of this application.

Applicants understand that, under the procedures of the PCT, a copy of the priority document (GB 9903519.8, filed 16 February 1999) will have been supplied to the U.S. Patent Office pursuant to Rule 17 of the PCT Regulations. It is therefore respectfully requested that the first Official Action in the present application contain an indication that the appropriate priority document is in the file of this application.

In view of the above amendments, an early action on the application is now in order and is most respectfully requested.

Respectfully submitted,
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Marked-Up Version Showing Changes Made

IN THE CLAIMS:

Please replace claims 4-10, 12-13, 15, 17, and 19-27 with the following amended claims.

4(Amended). A process as claimed in [any one of the preceding claims] claim 1, wherein the metal oxide which precipitates out of solution is a product of hydrolysis of the metal in its higher cationic oxidation state.

5(Amended). A process as claimed in [any one of the preceding claims] claim 1, wherein the oxidant is added as an aqueous solution.

6(Amended). A process as claimed in [any one of the preceding claims] claim 1, wherein the metal is selected from Ce or Fe.

7(Amended). A process as claimed in [any one of the preceding claims] claim 1, wherein the aqueous solution of said metal in a lower cationic oxidation state comprises nitrate as a counter-ion.

8(Amended). A process as claimed in [any one of the preceding claims] claim 1, wherein the aqueous solution of said metal in a lower cationic oxidation state is of a concentration in the range of from 0.01 to 1.0 mol/l.

9(Amended). A process as claimed in [any one of the preceding claims] claim 1, wherein the aqueous solution of said metal in a lower cationic oxidation state is of a concentration of approximately 0.1 mol/l.

10(Amended). A process as claimed in [any one of the preceding claims] claim 1, wherein the oxidant comprises hydrogen peroxide.

12(Amended). A process as claimed in claim 10 [or claim 11], wherein the metal in its lower oxidation state is Ce^{3+} , the metal in its higher oxidation state is Ce^{4+} and the metal oxide which precipitates has the general formula $\text{Ce}(\text{OH})_{4-y}\text{OOH}_y$ wherein $y \geq 1$.

13(Amended). A process as claimed in [any one of the preceding claims] claim 1, comprising the additional step of adding hydroxide ions to the reaction mixture so as to substantially complete the precipitation process.

15(Amended). A process as claimed in [any one of the preceding claims] claim 1, comprising the further step of isolating the precipitate.

17(Amended). A process for the precipitation of a weakly agglomerated nanocrystalline powder of a metal oxide, which process comprises the steps of:

- (i) inducing homogeneous precipitation of said metal oxide by a process according to claim 13 [or claim 14]; and
- (ii) isolating the precipitate.

19(Amended). A process as claimed in claim 17 [or claim 18] comprising the further step of washing and drying the precipitate.

20(Amended). A process as claimed in [any one of claims 17 to 19] claim 17, wherein said hydrothermal treatment is at a temperature of from 100 to 300°C.

21(Amended). A process as claimed in [any one of claims 17 to 20] claim 17, wherein said hydrothermal treatment is at a temperature of approximately 180°C.

22(Amended). A metal oxide obtained by a process as claimed in [any one of claims 1 to 16] claim 1.

23(Amended). A weakly agglomerated nanocrystalline powder of a metal oxide produced according to a process as claimed in [any one of claims 17 to 21] claim 17.

24(Amended). A metal oxide [as claimed in claims 22] or a weakly agglomerated nanocrystalline powder of a metal oxide as claimed in claim 23 having a mean particle size in the range of from 2 to 10 nm with a geometric standard deviation in the particle size less than or equal to 1.2.

25(Amended). A metal oxide [as claimed in claim 22 or claim 24] or a weakly agglomerated nanocrystalline powder of a metal oxide as claimed in claim [23 or claim] 24 having a mean particle size in the range of from 2 to 5 nm with a geometric standard deviation in the particle size less than or equal to 1.1.

26(Amended). A metal oxide [as claimed in any one of claims 22, 24 or 26] or a weakly agglomerated nanocrystalline powder of a metal oxide as claimed in [any one of claims 23, 24 or 25] claim 24 which comprises cerium oxide.

27(Amended). A glass, a polishing medium for glass, a thin surface film, a phosphor, an oxygen storage material or catalyst material which has been manufactured by a process which uses a weakly agglomerated nanocrystalline powder of a metal oxide as claimed in [any one of claims 23, 24, 25 or 26] claim 23.